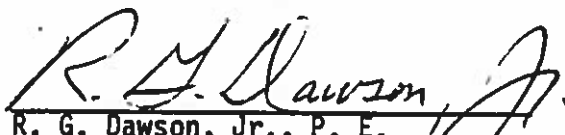


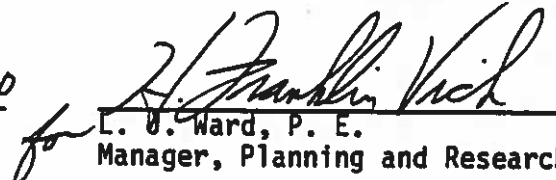
FEASIBILITY STUDY

Gastonia, SR 2329
(Redbud Drive),
From NC 279 to US 29-74,
Gaston County,
U-2521

Prepared by
Planning and Research Branch
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5/21/90
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I. DESCRIPTION

This report covers a preliminary study of the proposed upgrading of the subject road to a multi-lane facility. As shown on the attached map (Figure 1), this study extends from NC 279 (New Hope Road) to US 29-74 (Wilkinson Boulevard) in Gastonia. The project is approximately 1.4 miles in length, and appears in the 1990-1996 Transportation Improvement Program (T.I.P.). It is scheduled for feasibility study and/or right-of-way protection, and is not currently funded.

II. PURPOSE OF PROJECT

Existing Route Characteristics

SR 2329 (Redbud Drive) appears as a major thoroughfare on the Gaston Urban Area Thoroughfare Plan (adopted 1986, see Figure 3), and as an Urban Minor Arterial on the County Functional Classification Plan. This route provides a vital link between US 29-74 (and I-85 at the completion of the planned interchange project I-2003) in the Lowell area and the areas in southern Gastonia including those to be served by the loop project U-215.

The studied section of Redbud Drive has pavement widths as follows:

<u>From</u>	<u>To</u>	<u>Width (feet)</u>
NC 279	Linda St.	36' C&G
Linda St.	Andrea Drive	24' shoulder
Andrea Drive	Jasin Drive	36' C&G
Jasin Drive	Duharts Creek	31' C&G east
Duharts Creek	US 29-74	24' shoulder

Shoulder widths on the indicated sections above are an ample 6 to 8-foot unpaved width. The alignment on the route is good, and is constructed through rolling terrain. Speed limit on the project is 35 mph. Existing right-of-way on SR 2329 varies from 38 to 50 feet.

There is one bridge on SR 2329, and its details are as follows:

<u>Bridge No.</u>	<u>Location</u>	<u>Length (Ft.)</u>	<u>Width (Ft.)</u>	<u>Age (Yrs.)</u>	<u>Rating (New=100)</u>
319	Duharts Ck.	47	32.9	13	93.9

There are traffic signals existing at NC 279 and US 29-74.

Primary development along SR 2329 is residential, with small commercial intermixed near US 29-74 and NC 279.

Related Projects

There are two adjoining projects with bearing on SR 2329. They are I-2003 (proposed I-85 interchange with SR 2329), and U-215 (proposed Hudson Boulevard extension, from US 321 to New Hope Road).

I-2003 covers the installation of an interchange at I-85/SR 2329, and widening of SR 2329 to the northern limit of U-2521 at US 29-74. The proposed cross section for SR 2329 to the north of Wilkinson Boulevard is a 5-lane, 64-foot curb and gutter width.

U-215 (Hudson Boulevard) provides for an east/west loop in southern Gastonia linking US 321 with NC 279 (New Hope Road). At New Hope Road, the proposed cross section is a 4-lane divided urban facility with a 15-foot mountable median.

Traffic Volumes, Capacity, and Accident Record

Current traffic volume on SR 2329 is approximately 6000 vehicles per day (vpd). It is estimated that this volume will reach approximately 14,900 vpd by the year 2010. This considerable traffic growth is expected due to the I-2003 and U-215 projects at each end of Redbud Drive.

Accident data for a recent 3-year period indicates a total of 43 accidents on the project length, yielding a total accident rate of 349.4 accidents per hundred million vehicle miles (ACC/100MVM). This is less than the statewide average of 378.4 ACC/100MVM for similar two-lane urban secondary routes. Predominant accident types were angle (53.5%) and rear-end (16.3%) collisions.

Present capacity along the two-lane facility operating under urban conditions is approximately 10,000 vpd.

Need for Project

The studied two-lane section of SR 2329 will have capacity deficiencies in the near future when it incurs additional traffic demands due to the I-2003 and U-215 projects. The route will be over capacity along its entire length. Multi-laning Redbud Drive would relieve these deficiencies.

III. RECOMMENDATIONS AND COSTS

Recommendations for the studied portion of SR 2329 consist of upgrading the existing two-lane pavement to a five-lane, 64-foot facility. It is recommended the widening be on the south side of the road, except for the section from Helen Drive to Duharts Creek which should be completed symmetrically. The bridge over Duharts Creek is recommended to be widened in place.

The total estimated cost of the recommended improvements is \$3,800,000, including \$ 2,000,000 for roadway construction, and \$1,800,000 for right-of-way. A right-of-way width of 100 feet was used

for cost estimate purposes. Cost estimates were prepared by the Preliminary Estimate Engineer and the Right-of-Way Branch.

IV. ALTERNATIVES

Studied alternatives involved the section from Helen Drive to Duharts Creek. A four-lane section and a five-lane section offset on the south side of the road were studied to reduce property damages through this area which has a greater density of development.

It was determined that a four-lane section was not desirable due to turning movements necessitating a center turn lane at the majority of intersections some of which have been recently constructed due to new subdivisions. Thus, there would be no practical economy to be derived from a reduction to four lanes.

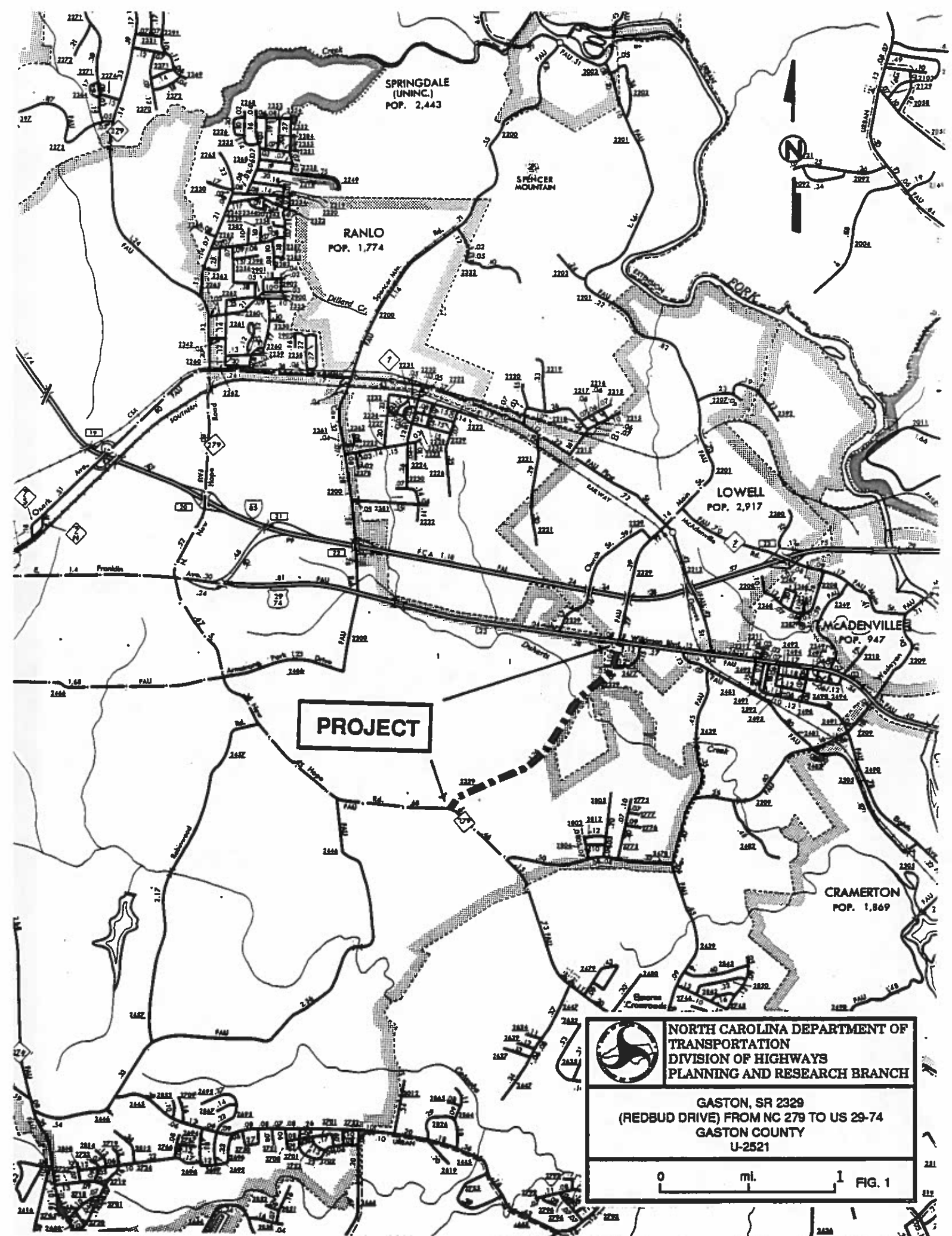
It was determined that the offset five-lane alternative would displace an additional 6 residences and cost approximately \$100,000 more than symmetrical widening, and thus would be less economical.

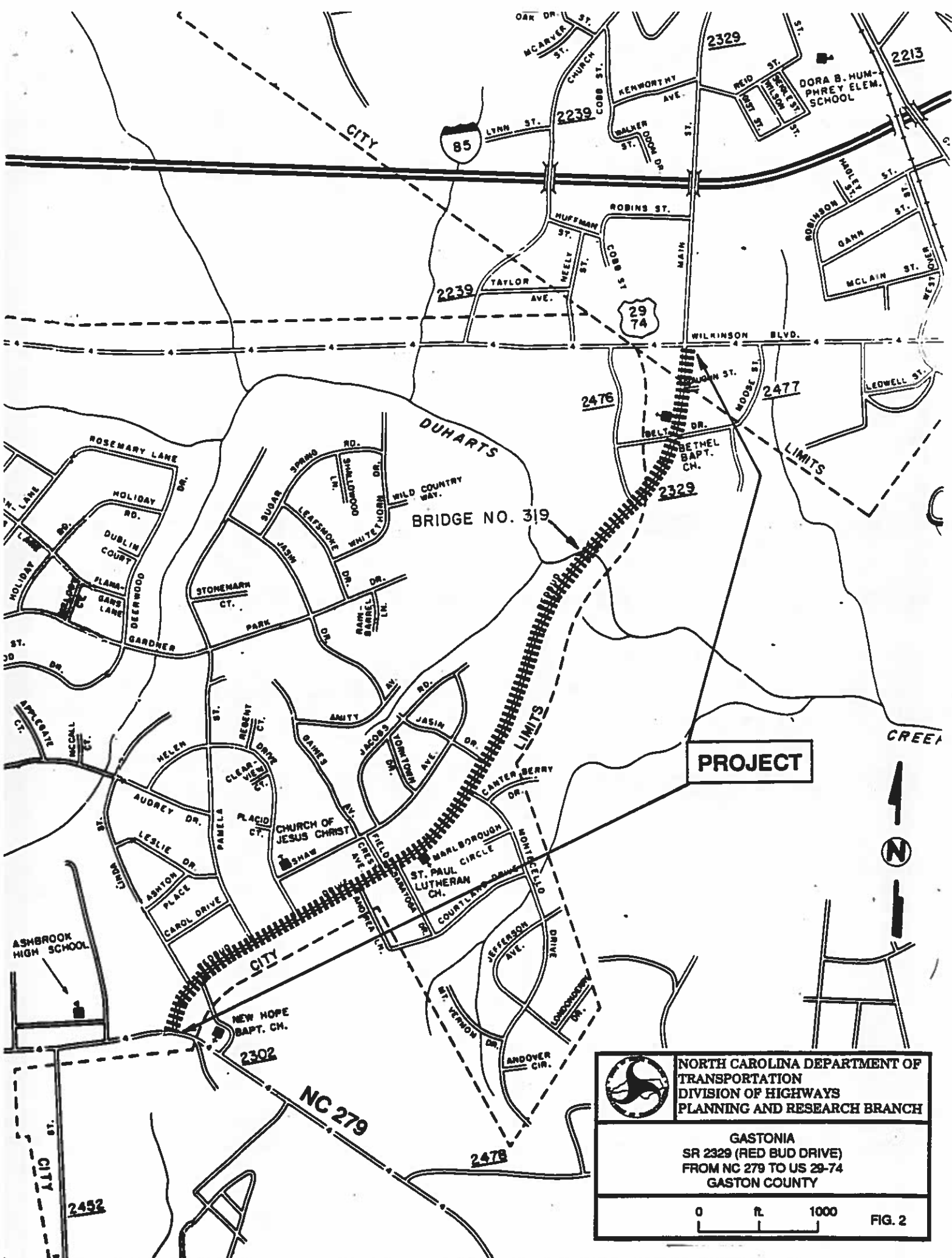
V. OTHER COMMENTS


Negative environmental impacts of the project are: (1) relocation of approximately 4 residences, and 2 businesses; (2) increased noise levels for the remaining properties; and (3) loss of a small amount of woodlands and wetlands near Duharts Creek.

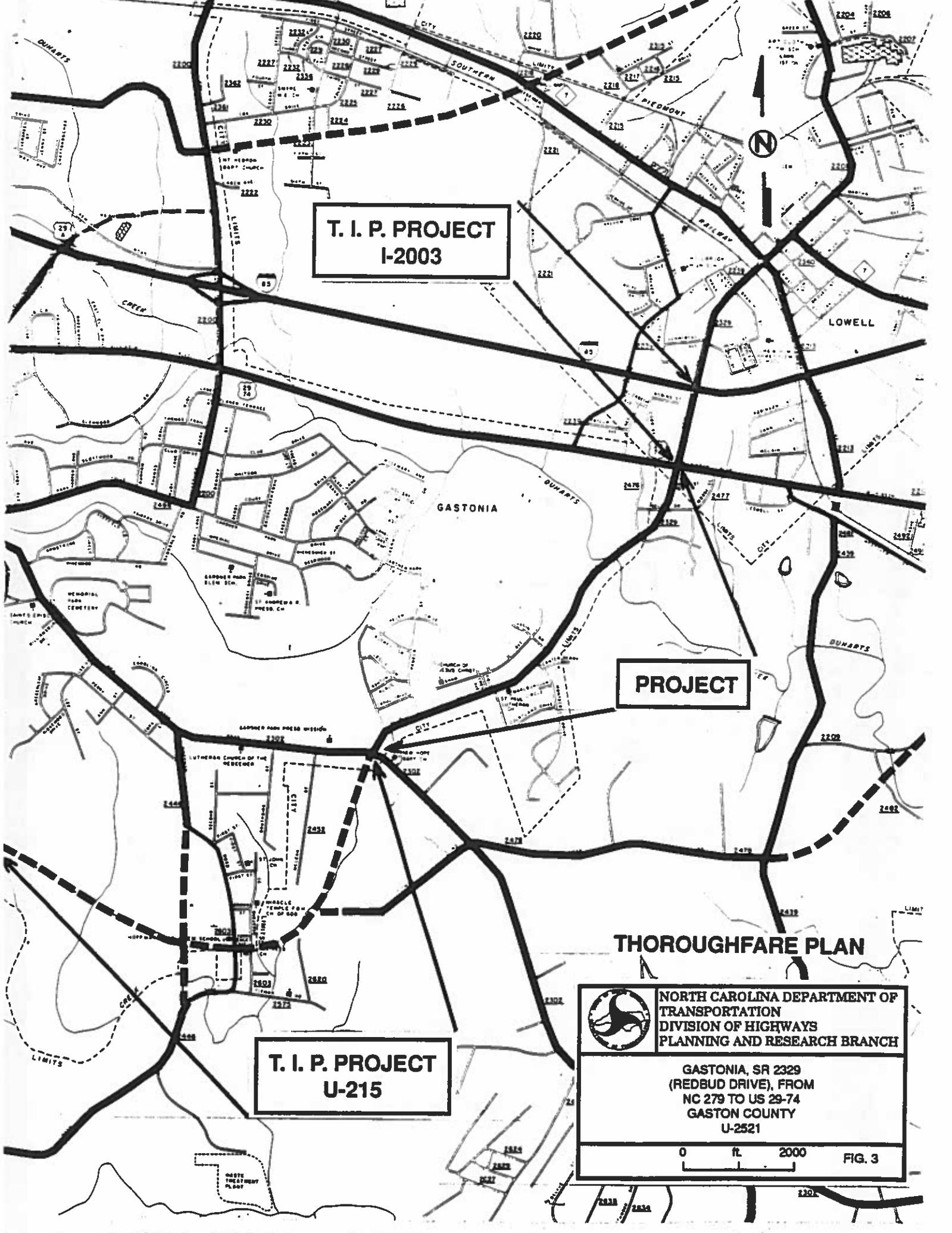
If this project is to be implemented at a future date, all feasible alternatives and their associated impacts will have to be evaluated in a planning and environmental document prior to that time, and a final decision made as to the most appropriate improvement.

MH/plr





	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANNING AND RESEARCH BRANCH
	GASTONIA SR 2329 (RED BUD DRIVE) FROM NC 279 TO US 29-74 GASTON COUNTY
<div><div>0</div><div>1/2</div><div>1000</div></div> <div>FIG. 2</div>	




**T. I. P. PROJECT
I-2003**

PROJECT

**T. I. P. PROJECT
U-215**

THOROUGHFARE PLAN

	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANNING AND RESEARCH BRANCH
	GASTONIA, SR 2329 (REDBUD DRIVE), FROM NC 279 TO US 29-74 GASTON COUNTY U-2521
<p>0 ft 2000</p> <p>FIG. 3</p>	